Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	
Redevelopment of Spectrum to	)	
Encourage Innovation in the	)	**ET Docket 92-9**
Use of New Telecommunications	)	
Technologies	)	

REPLY COMMENTS OF THE SATELLITE BROADCASTING AND COMMUNICATIONS ASSOCIATION

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I. INTRODUCTION

The Satellite Broadcasting and Communications Association (SBCA) is pleased to submit to the Commission reply comments regarding the issues raised by several commenting parties in the Further Notice of Proposed Rule Making (FNPRM) in ET Docket No. 92-9 and the jointly considered Rulemakings, RM-7981 (UTC) and RM-8004 (Alcatel).

In its comments on the FNPRM, SBCA has indicated its grave concern that the list of frequency bands identified by the Commission as available for reaccommodation of existing 2 Ghz fixed microwave operations continues to include two bands which are vital to the present operation and future growth of satellite broadcasting. They are the

C-band downlink and uplink frequencies at 3.7-4.2 Ghz and 5.925-6.425 Ghz respectively. Although the problems are more severe in the downlink band, both bands are essential not only for satellite broadcasting to home satellite dishes (HSD), but also for radio and television program distribution to cable headends, terrestrial broadcast stations, Satellite Master Antenna Systems (SMATV), and MMDS headends. These reply comments reiterate and elaborate the reasons for our concern that the Commission's proposal, if implemented, will be highly injurious to C-band satellite operations in general and to HSD services in particular.

SBCA also feels compelled to respond directly to comments submitted by the Utilities Telecommunications Council (UTC) and to a new C-band rechannelization plan proposed in a joint filing by Harris Corporation-Farinon Division, Digital Microwave Corporation, and Telesciences, Inc. This rechannelization plan was also suggested by Northern Telecom and the Telecommunications Industries Association.

II. THE FCC SHOULD FIRMLY REJECT UTC'S ATTACK ON HSD USE OF THE C-BAND FSS FREQUENCY ALLOCATION AND USE THIS RULEMAKING TO CLEARLY RECOGNIZE THE IMPORTANCE OF THE HSD INDUSTRY IN THE VIDEO DELIVERY MARKET PLACE.

In comments filed on December 10, UTC told the Commission, "In any event, unlicensed satellite earth stations operating in the 4 Ghz band are not entitled to interference protection, and thus, potential interference to these stations is not a valid justification for rejection of the Commission's rechannelization plan." UTC continued, "Moreover, the Commission should use this proceeding to explicitly affirm that unlicensed

'backyard' dish owners are not entitled to any interference protection from terrestrial microwave operations."

UTC has erred in suggesting that simply because their antennas are "unlicensed," the Commission should disregard the legitimate interest of millions of consumers who have invested in satellite systems. Frankly, UTC's cavalier approach to such a serious matter defies reason and logic. The large population of C-band systems exists in a shared environment with the Fixed Service, only as a result of the closely adhered to spectrum sharing plan among the co-primary users of the band, and the use of terrestrial interference (T.I.) filters to protect HSD systems from interference. Even though HSD systems are currently "unlicensed," the entire C-band industry has grown through reliance on the Commission's acceptance and support of HSD use of this band over many years. To change the ground rules now and disrupt the carefully crafted frequency structure which has resulted from sharing would be a grave disservice not only to millions of HSD users but to the FCC's public policy of encouraging the growth of competing video delivery technologies.

Under current FCC rules, HSD installations are not required to be licensed unless the owner registers in order to be eligible for frequency coordination and protected from interference. This "unlicensed" status does not however mean that the Commission can arbitrarily ignore the interests of the nearly 4 million American households who collectively have invested over 10 billion dollars in satellite receiving systems. In fact,

the Commission's treatment of this matter should be to support vigorously HSD delivery through the existing rules and policies which it has promulgated and which have fostered the environment in which C-band HSD has flourished.

The prospects for continued growth of the C-band industry are extremely bright due in large part to the environment the FCC has created to nurture competition. Virtually all of the major satellite-delivered cable programming services have committed to C-band delivery well into the 21st Century with their recent investments in next-generation C-Band satellite capacity. Current C-band HSD penetration represents over four percent of total TV households. New C-band system sales in the last half of 1992 were the highest they have been in the last 5 years. As a result, SBCA urges the Commission to consider carefully the devastating impact that the introduction of additional microwave relay systems at C-band will have on the HSD market, and flatly reject the UTC proposal to deny all interference protection to HSD owners.

III. THE COMMISSION SHOULD REJECT THE NEW C-BAND RECHANNELIZATION PLAN SUBMITTED BY HARRIS, DIGITAL MICROWAVE, TELESCIENCES, NORTHERN TELECOM AND T.I.A.

SBCA is deeply concerned with the new "wide-band" rechannelization proposal which emerged during the recent comment period on ET Docket 92-9. The establishment of six pairs of 40 Mhz wide Fixed Service (FS) channels would decimate FSS operations in the 3.7 - 4.2 Ghz band.

An overlay of the proposed FS channel plan onto the existing FSS channelization plan can only result in disaster for the HSD industry. The plan calls for a 40 Mhz wide FS channel at 3720 Mhz -- exactly the same frequency as the downlink for FSS transponder 1. It would be paired with a channel at 3760 Mhz -- exactly on the downlink center frequency for transponder 3. Every odd numbered FSS transponder downlink would have a FS carrier on exactly the same frequency. Even-numbered transponders could also suffer severe interference from the two wideband terrestrial carriers displaced only 20 MHz from the transponder center frequency.

Thus, adoption of this plan would be certain to result in unacceptable co-channel interference on 12 out of the 24 transponders on each C-Band satellite and would be very likely to result in unacceptable adjacent channel interference on the remaining 12 transponders. There would be no technical options remaining to HSD for interference protection. SBCA is unaware of any means of filtering out an interfering FS carrier which is on the exact same frequency as the desired signal. It is questionable whether the filters now used to protect HSD owners against adjacent channel interference would be effective against terrestrial interferers who spectra occupied the full 40 MHz bandwidth of the proposed wideband channels. Consumers living in an area where 40 MHz FS operations existed would lose access to half and perhaps all of their satellite channels.

As discussed in our earlier filings in this docket, technical interference affects not only the HSD industry, but all users of C-Band FSS other than a comparatively small number of "licensed" downlink facilities. Those affected include radio stations, cable headends, MMDS headends, SMATV operations, and commercial establishments which rely on satellite communications (both traditional video transmissions and V-SAT operations).

As we have detailed in earlier comments, SBCA believes that the satellite delivery of digitally compressed NTSC and HDTV video may be seriously threatened by any rechannelization plans. Compression is already a reality and will be introduced in HSD delivery in 1993. Major programmers such as HBO have already begun to utilize digital transmissions. A number of other programmers have announced firm plans to implement compression within the next 12 to 24 months.

SBCA has already stated in its original comments in this proceeding that T.I. filters are useless in a digital environment because digital signals can occupy the entire transponder bandwidth. For such transmissions, the use of T.I. filters would result in the loss of critical portions of the signal. Consequently, once signal digitization commences, and the full transponder bandwidth is occupied, HSD receiving systems will become even more vulnerable to the existing terrestrial interference. The introduction of additional terrestrial microwave systems, even if the existing FS channelization plan were retained, would make the problem far worse.

As a practical matter, and in view of the interference potential posed by FS carriers, the Commission may want to examine whether the time has come to limit any additional microwave authorizations in the C-band. Failure to do so could result in levels of interference which digitally compressed C-band signals would not have the capability to reject.

Certainly, any plan which places an offending FS carrier on the same frequency as the satellite transponder would totally preclude all satellite video delivery -- digital and analog -- on that transponder, and thwart the development of a host of new services that the advances in digital video compression promise to bring to HSD consumers. There are no technical solutions or spectrum utilization schemes (either wide or narrow band FS) which would solve the problem of terrestrial interference with digitally compressed signals.

SBCA is also very concerned over the impact terrestrial microwave operations in the 4 GHz band would have on the future satellite delivery of Advanced Television (ATV). These signals will almost certainly be transmitted in a digital environment, and each program will occupy at least half a transponder. The threat of T.I. to ATV delivery has been recognized by the PS/WP-4 Working Group on Satellite Testing of ATV Systems which has identified microwave interference at C-band as a serious technical issue facing the ATV proponents.

It should be clear that any disruption of the existing C-Band channelization plan or the introduction of additional microwave relay systems would lead to chaos in the delivery of HSD services in the Fixed Satellite Service. The Commission should reject out of hand any proposal to alter the existing satellite-terrestrial frequency sharing plan in the C-band uplink and downlink allocations or to allow the introduction of FS systems displaced from the proposed new technology band near 2 GHz.

IV. CONCLUSIONS

SBCA again commends the Commission for its foresight in attempting to provide frequency allocations to develop "emerging technologies." In so doing however, the FCC must consider the impact its actions will have on the technologies which currently exist and the new video compression technologies currently being introduced into the FSS at C-band.

The Commission has worked for many years to promote diversity in the video delivery market place. With the support of the FCC and Congress, the HSD industry is on the threshold of even greater strides as a multichannel video provider. With some four million American households having invested over ten billion dollars in satellite systems, and some one million new installations occurring every three years, the fruits of the Commission's labor are being realized. But the Commission's efforts will be for naught if, in an attempt to find a place for certain new technologies, it adopts plans

which cripple others. That exact danger looms as the Commission considers proposals to reaccommodate displaced microwave relay systems at C-band and to rechannelize C-band operations.

Accordingly, SBCA respectfully calls upon the Commission to take the following actions:

1) Terminate any and all consideration of the 3.7 - 4.2 GHz allocation as a "reaccommodation" band for displaced 2 GHz microwave operations.

2) Reject the "rechannelization" plan submitted by Harris and others which would allow for the establishment of 40 MHz wide FS channels on the same frequency as FSS downlinks.

3) Explicitly recognize the important role HSD plays in the video delivery market place by denying any request for additional utilization of the band which could lead to disruption of HSD operations.

4) As we have stated in our previous comments, WARC-92 successfully found new spectrum allocations for nearly all of the "emerging technologies" without disrupting important existing services such as HSD. While we commend the Commission for its foresight in planning for the future, it must not be done at

the expense of other valuable, growth-oriented delivery technologies which just now are beginning to flourish because of the Commission's earlier foresight.

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